What we claim is:

- 1. A medical device, comprising:
- a first component having an outer surface including an outer engagement portion;
- a second component having an inner surface including an inner engagement portion, the inner engagement portion configured to fit over the outer engagement portion; and

an aerated adhesive layer positioned between the inner engagement portion and the outer engagement portion.

- 2. The medical device of claim 1, wherein the aerated adhesive layer resists delamination between the aerated adhesive layer, the inner engagement portion and the outer engagement portion.
- 3. The medical device of claim 1, wherein the aerated adhesive layer absorbs stresses resulting from curing of the aerated adhesive.
- 4. The medical device of claim 1, wherein the aerated adhesive layer comprises distensible regions.
- 5. The medical device of claim 1, wherein the aerated adhesive layer comprises a light-curable adhesive.
 - 6. The medical device of claim 5, wherein the light-curable adhesive

comprises an adhesive selected from the group consisting of acrylic, epoxy, acrylic/epoxy, and acrylic/urethane based adhesives.

- 7. The medical device of claim 1, wherein the aerated adhesive layer comprises a plurality of voids.
- 8. The medical device of claim 7, wherein the plurality of voids comprise at least about 25 percent volume of the aerated adhesive layer.
 - 9. The medical device of claim 7, wherein the voids include an inert gas.
 - 10. The medical device of claim 9, wherein the inert gas comprises N_2 .
- 11. The medical device of claim 9, wherein the inert gas is at ambient pressure.
- 12. The medical device of claim 9, wherein the inert gas is at greater than ambient pressure.
- 13. The medical device of claim 1, wherein the aerated adhesive layer has an effective density that is about 25 to about 50 percent less than a density of the adhesive material itself.

- 14. The medical device of claim 1, wherein a gap between the outer surface of the first component and the inner surface of the second component is at least about 0.001 inch.
- 15. The medical device of claim 1, wherein the aerated adhesive layer has an average thickness that is in the range of about 0.002 inch to about 0.008 inch.
- 16. The medical device of claim 1, wherein the first component comprises an elongate shaft and the second component comprises a hub.
- 17. The medical device of claim 1, wherein the first component comprises an elongate shaft and the second component comprises a strain relief.
- 18. The medical device of claim 1, wherein the first component comprises a strain relief and the second component comprises a hub.
- 19. A method of forming a medical device comprising a first component having an outer surface and a second component having an inner surface, the method comprising steps of:

disposing an aerated adhesive layer over at least a portion of the outer surface; disposing the second component over the first component such that at least a

curing the aerated adhesive layer.

portion of the inner surface contacts the aerated adhesive layer; and

- 20. The method of claim 19, wherein the aerated adhesive comprises an adhesive selected from the group consisting of acrylic, epoxy, acrylic/epoxy, and acrylic/urethane based adhesives, with a plurality of voids dispersed within the adhesive.
- 21. The method of claim 20, wherein the plurality of voids comprise at least about 25 percent volume of the aerated adhesive layer.
- 22. The method of claim 20, wherein the method is carried out under an inert atmosphere.
- 23. The method of claim 22, wherein the inert atmosphere comprises nitrogen and is at a pressure greater than ambient atmospheric pressure.
- 24. The method of claim 19, wherein the aerated adhesive layer has an effective density that is about 25 to about 50 percent less than a density of the adhesive material itself.
- 25. The method of claim 19, wherein disposing the second component over the first component results in a gap therebetween that is at least about 0.001 inch.
- 26. The method of claim 19, wherein the first component comprises an elongate shaft and the second component comprises a hub.

- 27. The method of claim 19, wherein the first component comprises an elongate shaft and the second component comprises a strain relief.
- 28. The method of claim 19, wherein the first component comprises a strain relief and the second component comprises a hub.
- 29. A method of forming a medical device comprising a first component having an outer surface and a second component having an inner surface, the method comprising steps of:

disposing the second component over the first component such that at least a portion of the inner surface of the second component is proximate at least a portion of the outer surface of the first component;

injecting an aerated adhesive between the outer surface of the first component and the inner surface of the second component to form an aerated adhesive layer; and curing the aerated adhesive layer.

- 30. The method of claim 29, wherein the aerated adhesive comprises an adhesive selected from the group consisting of acrylic, epoxy, acrylic/epoxy, and acrylic/urethane based adhesives, with a plurality of voids dispersed within the adhesive.
- 31. The method of claim 30, wherein the plurality of voids comprise at least about 25 percent volume of the aerated adhesive layer.

- 32. The method of claim 30, wherein the method is carried out under an inert atmosphere.
- 33. The method of claim 32, wherein the inert atmosphere comprises nitrogen and is at a pressure greater than ambient atmospheric pressure.
- 34. The method of claim 29, wherein the aerated adhesive layer has an effective density that is about 25 to about 50 percent less than a density of the adhesive material itself.
- 35. The method of claim 29, wherein disposing the second component over the first component results in a gap therebetween that is at least about 0.001 inch.
- 36. The method of claim 29, wherein the first component comprises an elongate shaft and the second component comprises a hub.
- 37. The method of claim 29, wherein the first component comprises an elongate shaft and the second component comprises a strain relief.
- 38. The method of claim 29, wherein the first component comprises a strain relief and the second component comprises a hub.